

**Amendments to the Claims:**

This listing of claims will replace all prior version, and listings, of claims in the application:

**Listing of Claims:**

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1. (Withdrawn): An isolated nucleic acid molecule encoding vertebrate telomerase.

2. (Withdrawn): The isolated nucleic acid molecule according to claim 1 wherein said vertebrate is a human.

3. (Withdrawn): The nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises the sequence presented in Figure 1 (SEQ ID No:1), or hybridizes under normal stringency conditions to the complement of the sequence presented in Figure 1 (SEQ ID Nos: 34, 36, 38, 41, 43, 45, 47, 49, 51, 55, 63, 67, 71, 75, 79, 83), provided that the nucleic acid molecule is not EST AA281296.

4. (Withdrawn): The nucleic acid molecule of claim 1, wherein the nucleic acid molecule encodes the amino acid sequence presented in Figure 1 (SEQ ID No:2) or 11 (SEQ ID Nos: 35, 37, 39, 42, 44, 46, 48, 50, 52-54, 56-58, 60-62, 64-66, 68-70, 72-74, 76-78, 80-82, 84-86), or variant thereof, or hybridizes under normal stringency conditions to the complement of the sequences thereof, provided that the nucleic acid molecule is not EST AA281296.

5. (Canceled)

6. (Withdrawn): An isolated nucleic acid molecule comprising any of the sequences presented in Figure 10 (SEQ ID Nos: 18, 23, 25, 27, 29, 30, 32, 33), or hybridizes under normal stringency conditions to the complement of the sequences thereof.

7. (Withdrawn): An oligonucleotide comprising from 10 to 100 contiguous nucleotides from the sequence presented in Figure 1, (SEQ ID No. 1), Figure 10 (SEQ ID Nos: 18, 23, 25, 27, 29, 30, 32, 33), or the complements thereof.

8. (Canceled)

9. (Withdrawn): The oligonucleotide of claim 7, wherein the oligonucleotide is labeled.

10. (Withdrawn): The oligonucleotide of claim 9, wherein the label is a

radiolabel, a chemiluminescent label, or biotin.

11. (Withdrawn): An expression vector, comprising a heterologous promoter operably linked to a nucleic acid molecule according to either of claims 1 or 6.

12. (Withdrawn): The expression vector of claim 11, wherein the vector is selected from the group consisting of bacterial vectors, retroviral vectors, adenoviral vectors and yeast vectors.

13. (Withdrawn): A host cell containing a vector according to claim 11.

14. (Withdrawn): The host cell of claim 13, wherein the cell is selected from the group consisting of human cell, monkey cell, mouse cell, rat cell, yeast cell and bacterial cell.

15. (Withdrawn): The host cell of claim 13, wherein the cell is a human cell.

16. (Currently amended) An isolated protein consisting of ~~comprising~~ a splice variant of the human telomerase gene of SEQ ID No: 1 ~~human telomerase protein~~.

17. (Canceled)

18. (Currently amended) The protein of claim 16, wherein the protein comprises one of ~~the amino acid sequences presented in Figure 11 (SEQ ID Nos. 35, 37, 39, 42, 44, 46, 48, 50, 52-54, 56-58, 60-62, 64-66, 68-70, 72-74, 76-78, 80-82, 84-86), or a variant thereof, wherein said variant has at least 75% amino acid identity with said amino acid sequences presented in Figure 11.~~

19. (Currently amended) A fragment of said splice variant of human telomerase protein according to claim ~~[[16]]~~ 18, wherein the fragment consists of SEQ ID Nos: 24, 26, 28, or 31.

67. (New) An isolated protein comprising SEQ ID No: 46 or a variant thereof, wherein the variant has 90% amino acid identity and wherein the variant binds telomerase RNA (hTR), and wherein the variant is not SEQ ID No: 2

68. (New) An isolated protein comprising a variant of SEQ ID Nos. 35, 37, 39, 42, 44, 46, 48, 50, 56-58, 60-62, 64-66, 68-70, 72-74, 76-78, 80-82, 84, 85 or 86, wherein the variant has at least 90% amino acid identity with said sequences, and wherein the variant binds telomerase RNA (hTR) or exhibits telomerase activity, and wherein the variant

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is not SEQ ID No: 2.

69. (New) An isolated protein comprising a fragment of SEQ ID No: 44, wherein the fragment comprises amino acids 530 through 1096, 824 through 1096, or 911 through 1096.

70. (New) An isolated protein comprising a splice variant of a reference human telomerase protein as presented in SEQ ID No: 2, wherein the nucleic acid molecule encoding the splice variant has at least one of the following insertions or deletions;

(a) an insertion of sequence X (comprising SEQ ID No: 32) at nucleotide 1766 of SEQ ID No: 1;

(b) an insertion of nucleic acid sequence encoding sequence 1 (SEQ ID NO: 24) at nucleotide 1950 of SEQ ID No: 1;

(c) a deletion of nucleotides 2131 through 2166 of SEQ ID No: 1;

(d) a deletion of nucleotides 2287 through 2468 of SEQ ID No: 1;

(e) an insertion of sequence 2 comprising SEQ ID No: 29 at nucleotide 2843 of SEQ ID No: 1; and

(f) an insertion of nucleic acid sequence encoding sequence 3 (SEQ ID No: 31) at nucleotide 3157 of SEQ ID No: 1.

and wherein the splice variant does not encode SEQ ID No: 2.

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